DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-021511
Date Inspected: 04-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See below
Inspected CWI report: ☑ Yes ☐ No ☐ N/A
Electrode to specification: ☑ Yes ☐ No ☐ N/A
Qualified Welders: ☑ Yes ☐ No ☐ N/A
Approved Drawings: ☑ Yes ☐ No ☐ N/A

CWI Present: ☑ Yes ☐ No
Rod Oven in Use: ☑ Yes ☐ No ☐ N/A
Weld Procedures Followed: ☑ Yes ☐ No ☐ N/A
Verified Joint Fit-up: ☑ Yes ☐ No ☐ N/A
Approved WPS: ☑ Yes ☐ No ☐ N/A
Delayed / Cancelled: ☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 10E/11E-A1-A5, 6W-pp40-W4-4, 9W/10W-E and the following observations were made:

10E/11E-A1-A5

Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was 95% complete. The QA Inspector randomly observed the ABF welder identified as James Zhen was welding the first 400mm of the weld segment A1. The QA Inspector randomly observed the ABF welding operator James Zhen begin welding the submerged arc welding (SAW) fill/cover pass at the beginning of A1. The QA Inspector randomly observed the SAW parameters and they were 555 Amps, 32.5 Volts and a travel speed of 380mm/min. The QA Inspector noted the SAW parameters appeared to be in general compliance with ABF-WPS-D1.5-4042B-1.The QA Inspector randomly observed the ABF welding operator perform the SAW fill/cover passes thru completion at 0830. The QA Inspector noted at 0830 the entire weld joint identified above was completed. The QA Inspector randomly observed the ABF personnel disassembling the welding connex and moving the SAW Lincoln Power Wave machines. The weld reinforcement was not ground flush on this date.

6W-pp40-W4-4

The QA Inspector randomly observed the ABF welder identified as Mike Jimenez and ABF helper begin fitting up the lifting lug deck insert identified above. The QA Inspector noted the direction of rolling was stamped with a low stress stamp in the center of the insert plate, so no grinding or welding would mask or deface the identifying marking. The QA Inspector randomly observed the bevel angle to be 45°. The QA Inspector noted the surface of

the bevel appeared to be a machined surface with bright shinny metal. The QA Inspector noted the ABF welder was utilizing a prefabricated round copper backing plate held in place with magnets. The QA Inspector noted the fit up was completed on the QA Inspectors shift and appeared to be in general compliance with the contract documents. The QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector randomly observed the SMAW parameters were 5/32" E7018 low hydrogen electrodes with 178 Amps for the root pass. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. After the SMAW root pass was completed the QA Inspector randomly observed the welder switch to 3/16" E7018 low hydrogen electrodes with 278Amps and used through the completion of the weld. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on the QA Inspectors shift. It was noted the ABF welder did not remove the weld reinforcement of the QA Inspectors shift.

9W/10W-E

The QA Inspector randomly observed the ABF welder Song Tao Hunag had previously started the induction heating blankets on the inside of OBG to ensure the minimum required preheat of 150°F was achieved prior to welding. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector observed the ABF welder to be utilizing the semi automated flux cored arc welding (FCAW) for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Steve Jensen set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042-B-1 The QA Inspector randomly observed the FCAW parameters were 265 Amps, 23.5 Volts and a travel speed of 295mm/min. The QA Inspector noted the ABF welder continued welding the FCAW fill/cover passes for the remainder of the shift. The QA Inspector noted the fit up in the areas being welded were in compliance with the contract requirements. The QA Inspector noted the welding continued through out the duration of the QA Inspectors shift.

The QA Inspector spent the remainder of the shift walking the top deck inside and out of the East and West bridge decks. The QA Inspector took field notes of the status of the production welding, and or NDT of the lifting lug deck hole restorations. The QA Inspector later transferred the data collected in the field to on site excel spread sheets or tracking logs for future references.

Summary of Conversations:

No pertinent conversation noted.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer